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06CS/IS761

Seventh Semester B.E. Degree Examination, Dec.2013/Jan.2014
C# Programming and .NET

Time: 3 hrs.

Max. Marks:100

*Note: Answer FIVE full questions, selecting
at least TWO questions from each part.*

PART – A

- 1
 - a. "Languages, frameworks and architectures that were touted as silver bullets of software development eventually became overshadowed by something better technology" – substantiate. (08 Marks)
 - b. Bring out the significance of "Creme de la creme" rule in .NET. (04 Marks)
 - c. In a technical round of placement interview, the interviewer asks the candidate. "What are .NET libraries"? Help the candidate by taking the analogy of college library and writing programming examples to demonstrate the same. (08 Marks)
- 2
 - a. A company has both the domains C# and Java. During a coffee break, employees Mahesh and Dinesh working in Java and C# respectively had arguments over source code documentation. Justify the take of Dinesh, that his language provides better source code documentation. (04 Marks)
 - b. Write a C# program that prints details regarding the context of operating system hosting the .NET application. (06 Marks)
 - c. Differentiate: i) Value types and reference types; ii) Boxing and unboxing. (10 Marks)
- 3
 - a. Write a C# program to print the command line arguments in reverse. The main method definition should have no arguments. Is it possible for a single program to have multiple main methods – Enunciate? (08 Marks)
 - b. Create a class employee having the fields "SSN, name, age, sex and marital status". The class should keep track of number of eligible bachelors and female employees in the company. (06 Marks)
 - c. Explain the different string manipulation methods with examples. (06 Marks)
- 4
 - a. Explain the use of "this" keyword. (04 Marks)
 - b. An employee class has a field "Company name". How do you declare this field under following circumstances?
 - i) It should be accessible only by the subclass, but subclass should not be able to modify.
 - ii) "Company name" should be same for all employees, but can change during execution.
 - iii) "Company name" cannot change.
 - iv) "Company name" is assigned a reference to an object of "Company" class and later the reference cannot change. (06 Marks)
 - c. "Classical polymorphism allows a base class to enforce a given behaviour on all descendants" Discuss. (04 Marks)
 - d. Write a program in C# to illustrate the logical complement of method overriding. (06 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, $42+8=50$, will be treated as malpractice.

PART – B

- 5 a. "Catching the exception programmatically is good and necessary mechanism" – Justify.
b. Create a class employee with the fields "EmpId, name, maxleaves, leaves available". Report an exception whenever leaves available becomes zero. The exception should be a custom exception that stores employee name and prints the same along with the message. (10 Marks)
c. Discuss the different finalization techniques in .NET. Write a C# program to demonstrate all "Generation" objects. (10 Marks)
- 6 a. Explain the need of explicit interface implementation with the required scenarios. (06 Marks)
b. Explain the concept of "deepcopy" using ICloneable interface. (07 Marks)
c. Write a program to simulate the behaviour of "Cinema theater" with different class of tickets and different type of shows. (07 Marks)
- 7 a. What are delegates? Define a delegate in C# with an example. (04 Marks)
b. Compare and contrast synchronous and asynchronous delegates. (06 Marks)
c. Write a C# program to generate student related events such as "Attendance less than 85", and "Marks less than 15". It should send event notifications to "HOD", "Principal" and "Parent". (10 Marks)
- 8 a. Explain the mechanism of "locking" a reference type variable in the memory from an unsafe context. (05 Marks)
b. Write a program to create class point, that provides capability to add and subtract two point objects using operator overloading. (08 Marks)
c. Bring out the core benefits of logical view of a .NET assembly. (07 Marks)

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